Notebook Series -- Pocket Notebooks
Notebook, PN-19-10-07

The dated entries in this pocket notebook are from October-December 1919. The book was used by Edison to record ideas about business matters, experiments to be tried, and other tasks to be performed. Some of the items have been crossed out. The book was probably used in both directions. On the last page is a list of twenty-six projects that Edison was either working on or contemplating. The list serves as a rough index to the book. Among the projects mentioned are an improved Lalande primary battery, a starter battery for the Ford automobile, an increased-capacity A4 storage battery, a chalk telephone amplifier, and a method of processing lithium ore. Also included are various phonograph-related improvements such as a varnishing machine and a blank power loading machine for disc records, an adapter to play competitors' disc records on Edison phonographs, molded cabinets, and a cheaper Ediphone record. In addition, there are numerous notes and drawings concerning diamonds used for phonograph recording and reproducing. Several entries labeled "Amberol" indicate Edison's continuing interest in improving the quality of his Blue Amberol cylinder records.

Among the business-related entries are a list of manufacturers of phonograph cabinets, along with their daily output; comments about the Brunswick-Balke-Collender Co. and other competing phonograph companies; notes on recording artists and musical pieces; and statistics on defective Blue Amberola and Diamond Disc reproducers that were returned by customers. Also included are remarks regarding the finances of the Edison Portland Cement Co. and references to inventions to be patented. Among the Edison employees mentioned in the book are Charles T. Dally, William W. Dinwiddie, Elmer E. Dougherty, William Dykeman, Stephen B. Mambert, William H. Meadowcroft, John V. Miller, William J. O'Dair, Frederick P. Ott, and Ludwig F. (Louis) Ott. The pages are unnumbered. Approximately 150 pages have been used.

Oct 7 1919 —

Try Dry ammonium chlor drop in flake into —

Make some Ferrous Carbonate & put in reducing pot & Reduce by H & heat

Ditto Make Dry ferrous Carb, dry & oxidize hot air Reduce by H,

Why not use $MgCO_3$ Expensive Substitute Solution for Recovering Ni & Cu to make carbonate

See if following are reduced in Hahley Tank check 1 pass
Ferricy of Ni
$FeCO_3$ dry

(13)

[illegible]

Also [illegible] 250 cc [illegible]
and 5000 [illegible]

[illegible] 125 cc [illegible]
1250 cc [illegible] + plate
[illegible]
[illegible]

Also 5000 [illegible]
200 cc [illegible]
[illegible]
[illegible]
[illegible]

perhaps on 2500 cc [illegible]
full of [illegible] [illegible]
everything [illegible]
Cathode 500 [illegible]
6 [illegible]
[illegible]

Daughter to get information
of great [illegible]

Tell Nicholas Kendall
will [illegible]
go [illegible] I will go
[illegible]

Close up my gate room
+ take down the press +
put tables in like chem room

[illegible] $CuSO_4$

[illegible]

5 [illegible]

Use some [illegible] $HgCl_2$ salt or copper [illegible] for prevent tissue

Plate nickel & wash quick & put in $CuSO_4$ strong, then [illegible] deposits Cu —

[illegible] of [illegible] must prevent the [illegible] reducing Cu salt by $HgCl_2$ or a Cu[illegible] or $CuNH_3$ —

Try LOCL CP plate for the say to see the $CuSO_4$ use use is also bad of iron — LOCL made right

Try V III make 4 pockets. Change fully & digging to 5

2nd One 2 of these cycles

3 3 cycles

4 4 cycles

put in Water & pond over to see if open see stages of coloration of the iron

clean 4 tubes, run same way —

Send for W. C. Cohen & get some data about damper & have him get me some data,

Test Eng. Cable for iron

Get some of Reg. and & compleating & stamp & sol for test for iron

Y. Miller, on our Kettling
NaOH tested for Alumina also
Chlorate + perchlorate

When Ferrous Carb made
acid to ~~Y. Miller~~ reduction

Get costs making Red iron
from Sulphate detailed
Costs,

Meadecroft get Chlor Kcarb
on Hydrogen, Langmuir & Green
Mg

Hanley Make Crucible cells
with 2mm Open weave +
Close weave but the paper
between prevent slight alkaly

Chrome One Lung Melt NaOH.
+ let it Cool off so it gets solid in
1 hour — break & put Gallium +
top for NaOH

Try hydroxide Aq Cold on
NaOH. + let settle
Ferrocyanide Aq
Thiosulphate Aq V Sol.

Take polished Alumide,
N.S.O.4 6 Molybdate, 2" surface
plate 300 Ma 3 min —
The Cathode should be blue
when polished with silk
see if can be rubbed off as
flake — dettle coat Copper
then Ni see if can be rubbed
off as flake

We succeed in getting a good Iron Cark and a lot of Manganese [illegible] see if Carbonate Iron is fred from Carb —

Write Henry Wilson for samples [illegible]

Lelande Tar Coal Tar Pitch boiled 750 or just under oxydation point

Trinidad asphalt

1/2 H_2SO_4 1/2 H_2O

6 drops of this in 100 cc would blue Congo .2 cc

Think we should make another long tunnel for Columbian Mineral

Speak to Wattles to use only 1 funnel where possible for Mellon Stuart

Cu layer for flake at SB is 8325 Ma seconds per sqr inch

Ours only 3600, hence we should go 2.3 times slower say 2. This would make 2 cycles per hour

Nickel 37300 Ma seconds per inch
We only 18000. Ma per sec per inch again should go twice as slow

Hints -

1 = Try fresh Acetate sol & keep off from getting tainted by adding Ni OH. Each 8 cycles -

2nd May be oxidizing Compounds formed ex Cu Try diff reducing agents.

3 Try plating Ni alone from Acetate sol. Tried and detrimental of old add Copper later

4 Try the Ni Cyanide Cy sol on hand -

20 Oct 15 1919

474 lbs ~~Carb~~ c Ni SO4

95 gals water

22 1/2 lbs Acetate Nickel

1000 cc Glacial Acetic

This is for 20 Reg Nickel baths.

Easter Cell people Niagara Falls Can make a Potash as low as our Soda 0.2 Cl — have Hg Cell

I think our troubles in bad flake plating is Exhaustion of the Copper by heavy Current in Nickel plating. We can correct this easily by increasing size of Current on anney Cu Anode attached to Nickel could shield it from general solution when its giving off Cu which would be consumed by Nickel into general circulation which starts started.

Try in Reg Dep -
Anney 120 Ma Ni 200
= 220 —
also 40 Ma Ni 200
= 240 —
Try Auxiler see of Current decides Res Fall between Ni & Cu Anodes —

What is the 8" disc + machine 10000 for, Luhr letter to JVM —

Have drawings made to scale by funnel & reflection & form of wave

go out to Studios & bring Hayes to help Hardy Cell & weight bench —

O'Dair — look out for Aluminum accidentally got in Electrolytic hunt for aluminum utensils —
Dakotape — also test Cell Electrolytic, Try Other Electrolytic

Run 6 with 150 cc $NiSO_4$ — 100 H_2O
6-Citrate Li — +
3 6 10 15 20 free Citric
acid — if precip.

250 cc Double Sulphate Ni + NH4
+ 6 grms Acetate Ni
alone acc. placing of sol
glassy ~~acid~~ Nickel
5 cells as above
But 3 6 10 15
free Acetic

see if there is a Ni NH4 Acetate

Dup the 125 $NiSO_4$ 125 Water
4 grammes Acetate Ni
+ 6 10 15 25 free
Citric acid

ditto Tartaric free acid

Try 6 cells

200 $NiSO_4$ — 50 water
8 grms Acetate Ni

150 - $NiSO_4$ 100 water
8 grms Acetate Ni

ditto 100 $NiSO_4$ 150 water
8 Acetate

ditto 75 $NiSO_4$ 175 water

ditto 50 " 200 water

ditto 25 " 225 water

Try 250 cc $CuSO_4$
8 - grams Acetate Na
Keep temp up to 120 deg
2 Hours 200 Ma for 2"
No acid

ditto drop but 6 acid
" " " 10 "
" " 15 "
" " 25 "
temps 120° Fahr by setting
tumbler made beaker filled
with water so when stand
current to 120 - Wrap
Cloth around beaker & cap
low heat after filling
to 110 pour out a part
in 120 water as often
as necessary during
the 2 hours -

Send John over to Oldham
with homeopathic vial for
filling with Cut sheet flake not
seperated — + then expect
to seperate Think it would
free HCl or H_2SO_4 in addition
to $CuCl_2$ - Make some $CuCl_2$

Try 250 cc $CuSO_4$.
no acid.
Drop 6 acetic acid
10 "
15 "
20 "
125 $CuSO_4$ 125 water
25 acetic.

Try 200 Ma 2" sq inches
after this run put in fresh
Cathodes + 6 grams
Acetate Copper + remain

LOCC

Melt together Sulphate Sodaz
Sulphate Copper + pour out,
also with 1/5 of their weight of
Solid Soda Also 1/3 —

Try $CuSO_4$ dehydrated but 1
H_2O left same as our man
uses it —

Try 1 Cell Conc H_2SO_4
200 cc add Sulfite Soda
till 250cc then
6 grms of citrate Iron
ferrous or 10 cc glacial
2 Hours 200 Ma 2"

Try on 200 Ni SO_4, 50 H_2O
8 grms acetate Ni.
15 cc glacial on the new
Clinching Cathode —
+ deposit 24 hours
1st Accurately Weighing
Ni Anode + find the

loss of Anode + previously
Weighing Cathode roughly
after plating to get gain

Roughly see if dull red
coll throw off 10% prone dry
Iron Carbonate

Roughly see Watts
"Carbonates" How to make
Hydrogen H_2CO_3

Manbert Adolfy
Shaved 1st to [illegible]
Chrom Drill, 1st Steam
Shovel Splendid
long Kiln reducing
Dust — reducing
Oil gas

Mt Mach 1096 C
Mt Mach 780–820 C
possibly can distill of Mn Cu

~~Mn 790–860~~
~~Mn~~
~~Can prep Mn from or K.~~
~~Pure volatile distilling~~

~~Medium Mn for~~
~~"Smith Mn Cu – Analyses –~~

~~Mn Cu – [illegible] in [illegible] have very large silver~~
~~surface of 1/5 Mn [illegible]~~
~~for 6 months –~~

Try 6 Cells Copper,
with Dimroldic Rope Trace to
larger quantity – Then add H_2SO_4
& Try again Then a new lot
of 6 Cells if H_2SO_4 works, use
acetic acid –

Try

6 Cells
Conc Acetate Copper
No acid –
Then 6 acetic Acid
10 "
15 "
20 "
25 "

Formate Copper
125 cc formic
125 cc water. no acetic
Then 6 – 10 – 15 – 20 25
acetic –

2nd test 6 grammes
acetate Copper –

6 Trichloroacetate Cu
125 + 125 water no acid
6 Acetate Cu – No acid
Then 6 10 15 20 25 acetic

125 ($CuSO_4$?)
125 Water
6 Citrate Copper in all

2 6 free Citric Acid
10 "
15 "
20 "
25 "

Try Benzenesulfonate Ni / also Cu
with Ammonium —
Think we have some
~~Benzoate~~ ~~Sulfonate~~
sulphosynnic acid — Butyric acid

Try Ethyl Acetate in place of
Acetate Ni
Acetate dirin
Malic Maleic Malonic
Mesoxalic picric

So use a Nitrate or Chloride
Must have an acetate whose base

is very oxidizable Acetate of
say paraphenylendiamin —
Amidophenol Acetate Zn, Mg, Al, Li, Na, K
Or a sulphite of a base
Thus could prevent NO oxidy
the deposited metal —

Perhaps Glucose might do,
formaldehyde so — Tartaric acid

Try 1 Cell — 100 cc $NiSO_4$
6 Acetate Ni
100 cc Acetic
50 Water —

When Paterson goes, have Chemist
Come over, explain Cu Cl
Method Nu Cake & preparation —
Could then use all
Copper CuO

~~Imp Stt - Cover 6x8 Cathode Cell with asbestos + wind 1/32 Nichrome wire or heat insulating wire around it + asbestos over this or against the glass to heat cell.~~

~~Opt from Management last 4 Reports of Lebrand Ign Stat.~~

~~See MP Zinc BP Aq - what Aq Salt of PbCl in NaOH, KOH, Cent Zinc Aq in from In arrwildanis or a Aq Salt Reduced w/ Zn spring dislag~~

Work in
Electrolyze a Caustic K with 2% KCl - free of any free chlorine & can be got off

Try expt moulding sized grains Sodium Sulphate, say 1/32 20% + after burning dissolve out the Na SO4 to get porosity. Test by diffusion & by Electrolyte in Lead Jacket Leader 1st to fill porosity -

Think CuO plates after burning should be soaked H2O to get CuSO4 out of pp [illegible]

Make a plunger E/o
so as to Mend 4 holes
in our CuO plate
also 1/2 thickness with
another half op —
for drop tests.

Note present Construction
2 plate CuO 500 amp
battery — Design
another to get twice the
CuO surface — as cheap

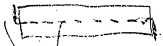
Get better way of Copperwing
Sea of weaker acid Boracic Acetate
etc will do it more quiet
ditto Acid Sodium Sulphate + Zn mush
rotating it in mush —
glycerole + NaOH Cong mush — very hot.

Make plate with perforated
Copper sheet in center
broke 1000 + then get contract
with it see if it works at once

Smith make precipitation from $NiSO_4$
with NaOH in presence of Concentrated
Salts Not precipitate by NaOH —
Salts To be removed $NiSO_4$ with
dextrose

6cc NaOH + 8% Dilny $CuSO_4$
clean etc if acid + how it
appears —

Lilandi — 1/1000 Cu
plate perforated sheet
to be moulded in Center
of plates need not
Copper thin —



turned over at Edge
to make Contact with
frame

McLeod find out where the sample of sulphides are shipped from Boston

Walter Miller - see if you can get a trial off Flora Perini Mazzarolous first around Willoughby & McDonald

Ask Dykeman not present. was sent up to get them [illegible] not being [illegible]

Monthly Clark Ele should have increasing of percents every month [illegible] Check with assembled Reproducers on hand & [illegible] - Need five percents closed [illegible]

McDonald = find out who is Head foreman of Clock Tinker [illegible] Co [illegible] - Mark clock [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

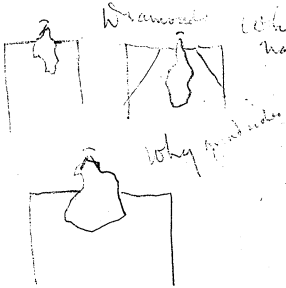
Need [illegible] get 50 lbs Nickel [illegible]

New Mixer - 1st Run -

109 lbs Clay	70.8%
35 lbs Punch	22.8
9 lbs flock.	6.2
	99.8

apparently OK Mixer probably do 250 lbs. 135 lbs steam pressure smoke all went outside unloaded 2 or 3 min Run 1 Hour 10 min - time started pulling stuff in Clay & flock heat to 250° [illegible] before pulling in Mix.

Mambert to get the upholstered
seat used & stand in Cement
Reservoirs, also of Cement
tiles which were extended
up due & what stands
6 g. alone,



Flake Saponin try and all
thru 180 1st down — another
Lot thru 10 feet trap
see which succeeds —
Coarse fat Cook

Start Smith on
Cut Dry Cell

Patent New Cell
Plunger —

Rosen Soap
Na Soap — K Soap
Silicate Soda Silica Jelly
Alum Alumina Jelly
Tissue Jelly or Albumen Jel
Hydrocyanic Acid
Rosalphin Balsa wood
Kapok Silk Bitter Aloes
Cotton wool, Lanolin
Cotton & Jute

Analysis Cotton
& Glycerin

Ring cell Valve globule Hg –
with hole in Pumice –
[illegible] asphalt
in [illegible] road pressure
Cell –

for 200 Ni dose daily
wants 12 lbs Ni injected
daily in form of
$Ni(OH)_2$ – Colloid –

4th Run on glucose
[illegible] $Ni(OH)_2$
short tube 1220.
[illegible]

Ask Powder of any
of the Varnished
[illegible]
[illegible] Cox

Run down & find out where
the regular one of all the
diamond dust gauges
should be sent for 3 yrs

Make ½ doz 100 – 8 Deby $CuSO_4$
6 NaOH Mixed by hand
test 1 CuO with 1/4 inch
strip of Zinc on each side
and 2½ long so surface
is about ½ that of the CuO
& discharge at 400 Milliamps
want to see if its the Zinc
that causes drop in Voltage

Another drop but
½" Zinc 2" long on 1
side only 400 Ma

drop of this with
Holashin CuO disc

Procure ano-ay the sediment in Bottom of Cell now running thro CuO Cathode holder –

See in last 13 sheets where gas holes shown if they reach on all to find if its Cathode or really all gas –

Try CuO discs 6 7 + 8 33% if any improvement out 6, 7, 8 of 20% – Try in Mortar + also make discs –
ditto 6 7 + 8 45% NaOH.

Also precipitated $Cu(OH)_2$ washed free + used alone also mixed with NaOH 45% while a mud,

also try Cool Copper in place of sulphate various proportions

Doughlerty & Phillips.
K Sulphate if added on by NaCl will form KCl + Na Sulphate –
This reaction may be useful
Try lepidolite also Spodumene with NaCl – also Orthoclase felspar by roasting decomposition to remove K

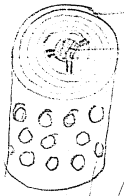
For Electrolyte Release try some fluoride Na – fluoride Zinc Sul Nitrate
also phos Na –

Try Cumerone + Pontinac also Creosote, cheapest in Bengal + also Coloured Nap with benzol of Cumerone tell not brittle when shrunk

Paper Carbon wanted with Vulcanizing stuff on Tape + Vulcanized to waterproof

(35)

Dry Cell



Perforated sheet Zinc
+ blotting paper (backing)
wound around with Cord
in center, the bladder filled
with MgOH, + wrapped
+ cut perpendicular except the
hole + put on paper Carbon
holder — perhaps MgOH is
between Mes + Carbon
wet with MgOH,

arrange to put Violin
fingering on a Viola body
to get more Volume

Press the Fe_2O_3 from
Carbonate precipitate into
Cakes also sheets by
passing thru a roll
Reduce by H + see if loading
cat not increased

Manbert Analyze to Extend
Notes 2 yrs more

Try MgOH on Polymers + test for
KOH after a week hot

E to precip MgOH to get S
Jelly like product S.H.
Also Analyze to get salt out

Device for measuring
Volume of Sound

Instead of using [illegible] proper in Dry Cu O cell, use the tough [illegible] from sulphate pulp —

Put Ammonium Citrate well [illegible] most from wheat [illegible] which has [illegible] by the [illegible] Dry —

Polish some [illegible] steel like Lube [illegible], Dip 1 in 8/4 [illegible] [illegible] strength or 1 [illegible] — 2 [illegible] [illegible] hang [illegible] [illegible] see about [illegible] [illegible] them

Dry Cu O cell ~~[illegible]~~

Oct 31 1919

The Standard Solution for Nickel plating does now in crocks supplying 78 Ni Rubber baths is

1422 lbs of Nickel Sulphate
285 gallons water
135 lbs of Acetate of Nickel

There is to be removed from the Solution each day 25 gals. This is to be heated in Crocks to 160° Fahr and Nickel hydroxide added in small portions at a time with continuous stirring until Litmus shows its neutral or nearly. This is filtered & put back into the general bath. Should gen'l bath get still too acid more than 25 gals can be neutralized daily —

see if Benzenesulphonate Cu also Ni
Sol'n works — Benzenesulphonate
cheap might be good plating
Sol'n Na S. Na salt probably
Sol'n Cais m phenolsulphonate
Other powerful acids —

Start work on Universal (Except?) respondence
To be made of mg 2.

Prof Miller says Even good NiOH
deposits up. Poor at throwing
of Chloride Baths, look out for oil
in handling leading, test
plating with Copper Sulfate,
test Chloride Baths, Defining Benzene
used in working Ni
Determine Ni OH test into single
do you use Sulfate or Pot in
test Baths

Make some anodes
4" instead 2" from Desc
Black + Rust them
in same solution
now running after
neutralizing of cyanide —
Weigh H and of better

Take temperature of the
6 cells just before
disconnecting. Also
Room temp —
Treat OH do same in
two 6 X 6 —
4 specific gravities of
the 6 cells at room
temps —
Also Voltage across
Each cell when
plating —

Half Whole Lo drawing
of Friend reflection funnel

Test loading new blank mix.
Put Simpson on at Temporarily

Get complete Diamond
Statement & also report
for all bort dust since
got started find out from
Catt date, & what was
gross over from block of
refuse on which fell on
then get diamond bort
was bought since that date

See Mr Miller & talk
about discrepancy in
Leyland & Miller on
statement.

Tell Dykentah Keep me
supplied on Carbs from
England —

Talk Kuing & the Hoover
relative bort & other diamond
at Kimberley Mines

Dykeman find out who
Operates the Guinea Diamond
Mines in SA. Kuing may
know. Geological Journal
Reports may have them.

Meadowcroft write Kuing
about these 2 questions
also of engineering work
is being done on the
Kimberley mines in Ozarks
Mt, or near there where
several diamonds were
found —

Put a Chilled flat
with 8/4 on grit diamond
dust over it particles
separated flows in solution
& plate Wi till its .003 or
.005 thick face of Ok for a
lap — weight just .001 dust.

Medoncraft
Let me see Dunne
answer to Crampt
questions J. W. Hering
be forwarded ~~[illegible]~~

Try 10 amp on one of the
Gram sheets, connecting
at one corner 3/4 washers
dipping in 20% NaOH,
see heat at contact
use thermometer if possible

Rykeman — How many
Cylinders came in set
How many shaving shipped
Rise of cylinder

a 005 Mi Disc
Weighs 61 grams

Tungsten Lap — 800 chg Tabor

Large Diamond with hole cupped
shape to hold diamond dust
to rotate high speed point rotate slow

Lap-Carborundum in grooves high
speed to heat diamond red hot

Burn piece diamond to round edges

Small Warner Cup 1" inside
rotating 15 to 20000 Rev min
grooves in of right shape —
Does not so good as 5" Cup
Force Rev when 15000 — 200 ft sec
with grooves in —
If 1" & 5000, & 5" & 5000 Tabor
Does 25 times the Cutting power
Sgr of Speed Carbide Wrn board
Holes Thru 1/4" Steel —
15000 — 165 times Cutting
Speed

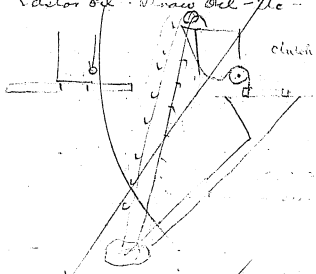
By the 3/4 X 2½ Linear work
OK — Try 1/4" X 2½

Also to test NaOH, Try smaller
Lathe that I can work with,
175 grams per day, 200 grms
225 250 300 —
When have found limit
Search for Chemicals that will
increase Solubility by forming
obtuse double Salts,

Note that 1st test sealed line
which drops to bottom —
dehot dissolve, (gain 1 gram) 450 cc
cc NaOH when used

VIII — Have bought 2nd
Lat. Toby H. procured
Hydraulic & procedure to
get heavier loading out.

Dehydrate Castor by ~~Cath~~
Castor oil · Olive oil — Etc —



May have to be filled once
pass forward to a presser
& refilled again to get enough in

find numbers plants average
daily & the average number
of irons —

Lay Calibrate ~~Hat~~ a-plate
drawn ~~draft on it~~

Chuck to grind diamond
find out length Columbia
Will grind 15 ft back
from end 7.5 will lay other

Press into plates & make
Zinc powder

Try Clean Cu transformation
by Zinc mixed with 160 or
150 mesh & press in wheat
in Hydraulic press

Possibly with 15/000
Rev 5" wheel
Carborundum Cut diamond

Try cupric hydrox alone
No. NaOH, for CuO plate binder

Fred off - Gus has means
he is to take 8 sheets
off - filter the liquid
weight it then heat & add
NaOH till neutral filter
dont lose any then weigh -
~~Dont use more water~~ Use
only NaOH,

Fred off, Make Zn discs
3000 2000 1000 + 500
Ditto Iron — ditto Copper
ditto Tin ditto Ni —

Make 1/16 thick iron same as
pounded 3000 lbs test it for
breaking — find an old
Iron pocket Mould Either
Walter Archer or VIII has
one — want to make some
iron slips size of pockets
for test at Navassa process
Ditto Zinc - Could use CuO disc
mould - In about 1/8 thick

~~What amount of bort on hand used only for making carbon —~~

~~Also when they say 6.5 pounds per Carat do they count the bad bort broken up for sand?~~
~~They gave out 24000 Carats in one year did this include bort for sand & also the sand?~~

~~Make a box same size as our ½" mesh screen put screen at bottom so can be moved a little reciprocate at when box is full — see if find ok — See if Dennudair got ½ mesh screen round top of metal —~~

~~Coughlin, Wand, Wiss, Nessing, Worth, Fg, Mud Contract, Hy~~

~~Constructed a Reg A4 pro reservoir use 2 sheets wafer Each .004 between & place Fe + Ni plates together — Also a cell like Ford electrolyte to Equal 150 amp Capacity .001 Ni Electrolytic sheet —~~

~~We should try for reviews on Ford but try Fe + Ni Steel Slowind — Dalaphand. Metal — Electrolytic Ni — Ele our operation~~

~~see our Pittsburgh Lelande glass for people perex type of glass bottles for drugs instead of Coudensity. They Cast was grind —~~

Perhaps, KCl-Hg — HnCl-6 + KOH solution saturated at 72 fahr that going to zero well salt & cut some KCl + NaCl —

Perhaps adding more KOH to sol'n before filtering get a clearer sol'n clear & they'll cloud in well & KOH

Make saturation sol'n at 100°C Cool very slowly to get big well defined KH Cryst & pour off mother

Dilute remainder to Zero & get fine cryst -

Use little 2 ½ mould with rocked sides round long wide, cut out from it & then dry room with Crazee Rock work & sulphur use Para Vulcanise + moulds under heat do vulcanize in moulds, if allowable

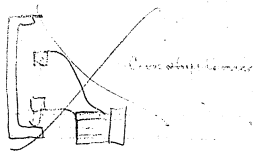
Ni - use 8/4 to clean & buy silk thread from Co replace Cellulose for Amberlite

Fred Ott Mould 3 more Zincs at 1000 2000 + 3000 in the round mould used for CuO,

Then use a Cu disc put over it one piece Rolling paper dealed in 20% NaOH over this put the Zinc, Cut blotting paper ¼" larger diameter lay flat in chest glass cover it square watch glass to stop Evaporation Run #30 Copper wire out put 200 Ma Pb in a sea horse long they last, soak the CuO, pick off NaOH also Zn should be underneath -

Have the so bad Roll mix separated way 4 to use the green for lines leads of OK. Also so Right separate Enough green to make 2 A 4 leads for long leads

Also take some small tubes with recovered flake + tubes with 50 old 50 new flake with recovered M. O. H.



Lap the [illegible] up fences.

steel diamond to initial diamond the Carborundum

possibly we cannot get right radius in the machine if not we can do it this -

A very high No 1 soft cast iron lap. pig iron best should be best as there is more free graphite Crystalizes out which gives more checks to roll the diamonds in — Perhaps Malleable iron which is very porous would be better still but may be too soft to hold diamond

Perhaps hardened steel best + use diamond in Castor oil or other high viscosity substance, Canada Balsam, glycerine Etc — & feed by Camelhair brush but its doubtful steel should have a matte surface

perhaps Fe oxyH mixed with diamond spanded on a small taper die plunger Can be forced thru a ring + deposited on the inner part of ring + then thru backed up + rolled to form the inner lap needed be more than .005" thick

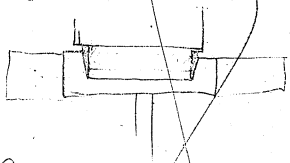
perhaps inner ring can be filled with richest holes by the pressure used in making my picture on Disc Records + forged diamonds forced into the holes, Nickel being used.

Possibly diamond can be just forced into half in Chuck thus headed + then suddenly forced down a taper. Causing steel to flow Entirely around diamond

Possibly diamond can be cemented to end of a conductor, grafted +

The Chuck formed by plating, (used Ag & Ok)

Also Chuck Moulded with diamond in Center + then coghate heat up in Hydrogen to harden + rivetted



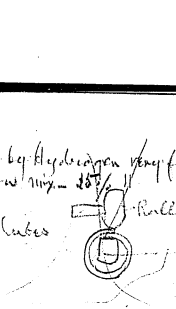
Campaign to prevent iron from dissolving in NaOH Try KOH also + also some agent in NaOH to stop it dissolving -

O'Dair what water do you use for dissolving Electrolyte in factory —

Send up + put up some old iron Never heated above 1550 + test

Mix some Bi by Hydrogen very fine + set in iron mix – 25%

Spot weld tubes



Leave 3 Copper strips in 3/4 of Reg strength Nitric Acid for 1/2 hour for 1 to 24 hours the other in weak also some weighed & in 2 weeks.
No varnish
See if it is affected by Molten sulphur – q

Get from Stokes or Colmbin Rubber Co some hard rubber dropes before its moulded to see if can mould diamond in Ni or Cu Moulds or Vicksmyn in Situ without hunting Mould

Neutralize 6x8 Gath + plate Recording Voltage after 1 min + at End

~~See the Mix from 10 old Cells~~

Can possibly lap the iron drum below the diamond by using a Viscous substance Stylol etc Chgs with Carborundum in usual lap or by a soft giving lap Rubber etc it will not affect diamond yet Cut the iron down possibly an iron lap 50% H2SO4 + clay

Possibly Mix of Iron by H. + diamond prepared on a lap + welded in H,

Fred Ott - now [illegible] Exports on
Rolchuning Mallo vide ref 6x8
Nitrates

Rec about Vole cleaner
in December [illegible] Wolfgd Lube
[illegible] Clarke

1 Carat Diamond Weighs
205 grains (King) he means
Milligrams, 3168 grains (King)
Troy [illegible] 1 1/3 Carat
402 [illegible]

205 Milg to Carrat

Yes OK
Tried

[illegible] Union
with Nickel.

Measure
Weld on Magdeburgen

Nov 7 -
Inventory SB
Nov 7 2.101,063

get 1 diamonds that weighs exactly 200 Mlg this is a Carat Mount it in piece metal for pocket use.

Mohr [illegible] dangerously weeking Jales Memmy keeps in Memorial Mc Gran

Holden — Let me know what Patents Brunswick infringes —

Ask McCheaney how many plates does he polish per hour on a press does he place more than 1 plate at once —

See if we got the rented battery back from Navy yard & say to Kelly it was rented battery + never need of to sell it cos now.

Boiler Maker hand up & rivet sections to extend Reg Channel to greatest length of Columbia Studio allow 12' ft for performers + if necessary Extend outside Mint building to be lean to, use 1/8 sheet iron + flanges but on + smooth no nuts projecting inside —

Make Silicate Polish with Syccan KOH so dissolve to thick Molasses like liquid + use in dry cell.

Try that MnO_2 ground with graphite like old Mix for a dry Leclanche Cell.

Test the Rockfor Valve with needle hole in it also distention of a closed diaphram to open a vent momentarily

Gall - assuming you print 60000 daily - you will require not less than 130 Mr baths & 800 Copper baths working baths with no idle ones based on 500 prints to a month -

Dykeman. Think we should Cable Wagner that we only want Crushing & Sort the same as the large lot obtained during the war.

Test for precipitating Ferrous out of 20% test tubes cork in + 100 Milly of the solution -

Order the Regeneration and Cellulex Apparatus.

Daughtery. About 12 Hand apparatus -

Manchester, Drawing Dept 6 cakes
" Table on Rotating guarantee

Lelande - Try a cake putting direct on hot plate

Ask how least good lot made handing old in for hour

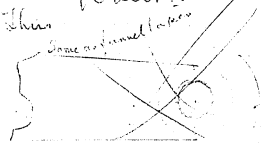
Try Lelande, again 1/2" square with a Cud that is known to be good its compression making reversal 3 ft diameter it can be turned round to have 2" surface, Amalgamate as before

Also try same Experiment Reversed using disc 1" dia + same 2" surface -

Recording - When I double length by turning it is likely that last action at small end should be discounted
Special large size Recorder hole used
(65)

Walter Malley

Thus



This will take out 1/4 of whole deveolaiyoo, & increase volume of sound.

Hanley instead of dropping at 150 Am Run Curve. 150 125 112 100 90 80 amp. He will tell us what new plates will do - cheaper to add plates than a new cell.

Frosell -
2 pokeds/dis c in hydraulic press pressed with force 2 tons then 200 more washed.

Nov 14/19 For 9.40 hand

1st Rough estimate. of cell's 40 plate cell.

Materials

Ni x fe Mix 60 cLb	$4.16
Ni metal Briquets	86
Can + stock	40
Bolts + End plates	40
Paper	20
Soda	24
Box + Rubber	50
Extra Top Connectors	40
	$7.16

No labor or other expense co in this

Lazor per starter	$1.50
General	1.00

Batquarantee Cost 1250 - 1st cost
Subsequent cost 1100
Return Value 100
List 18 - average dis 25 on list.

Pathe Sapphire tracks .030
New Brunswick Record needle
use .020 - McCoy

Man stationed Europe & one in US winding around taking Church Semper Lipsalo

Present Capacity S Bat Co 1400
Cells daily — 1350 lbs Ni from
Mud made daily — Nov 15/19

At work - Ni found quite 10 oz on cathode 10 hours - 50 seconds gives 1/2 amp for 2 hours or 1.5 Covered, then 1 amp for 1 hour then remove without washing Copper bath.

Ask on the 6 Ni December Expert of the with 10 Cells on or changes Solution.

Hard Rubber seconds, Ambroid — Gold plate Moulds Sp. Sulphur not hard

Try Celluloid record Varnished Condensate Var-Gold To Condenser also with Baker do & in Mould — print & see how comes out

Load up Pontiacs with chey tray dilute mixed with sulphur - dilute sulphuric tube dip in Sol. in Kero, Bakelite,

Legal Dept, How about application for gas alone in Mexico application

Tell Smith rig up using some Cu plate as Tredall made plain zn discs to get quick tests on his colloids

Find that Tube Coiller in Recover cell & only one we have where Semper sing together but not same key — & Cooperated so to speak —

Aug 25 1914

Try Zinc – Plating wire for use with 20% Zinc Sulphate Plant produced from Nickel and Copper Metal dissolved in Sulphuric acid

Edison do same thing with Pentmak fiber or Celluloid –

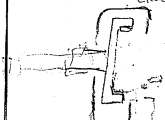
Start Doughing on Spodumene, Lepidolite get break of previous Experiments –

Doughing COK not kept false bottom with holes & Crenolas over & thrown in No 7½ Wood Leach keep running 3 or 4 tanks tandem & removed from 1½ to Cheaper Upgrade per foot block of leach. Could use square tanks 10 X 20 - false bottom 6" thick.

Lap. metal of rotator use roll in the sand cut with diamond

Ask Goff if can't release end of Gabr block when Celluloid finally abandoned

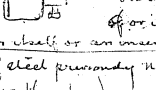
Catch Diamond dust



Shrink holder on the cast iron or if notched use holder shaft or an insert forced in

Thus of steel previously notched clear across – then bend up Or

Thus

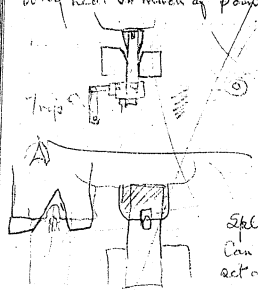


rung forced in & Nickel tool to free Stock Cut out.

Can make laps of 5/100 sand also Corner & also V laps 001 as this tool can't be made square

Get piece of Soft Foundry Iron face & then Lapt to shape of graphite — Can get piece pig at any foundry No 1 Coarse grain – Smith probably

Why heat so much of point holder



Split holder
Can then accept
set diamond

see of pouring Cone Fabry into
General radio press Cylinder
formed of Masory

Have Ford Stanley steaming
Tank steamed Mfg —
see about Anodes Silver
Cast —

Record in Book & that the 95
runs in 6 Lunchbox McKenghan
Ever been added but original
Sol + water only added from
time to time

Fix up record in NCC book
of following + need to keep
Bdo cc gallon sol NB

Write McCheaney to get
up 6 Cells — 2 have to be
discharg at 5 amp 2
at 7 + 2 at 10 amp
for decelerated tests,
so when I come along
can have comparison
Curves ready.

Ford Stanley Rosebery Jones plugged
fine McOtt prowd up + dried
then floated on paper Lamp Rec

A wound from the till

Try Pontiniac with clay up to donut in Rolls, hot — Try Rosin with it, Naphthalene, Solvent Naph, also Sulphur & clay from S. ground fine 5 10 20 25%. Sulphur Vulcanizer —

Try Cotton NaOH 15% soak & boil squeeze out free NaOH & bleach with CS_2 Make several strength of it in Water & precipitate with an acid then put in 20% NaOH —

Walter Miller — Make me Samples of Oboe, French Horn, Different Saxaphones Viola, Harp, Trombone & all other instruments of the orchestra But only their scales, going from their lowest to their highest note Want it on Disc So I can print on Condensoglo 2 or 3 discs maybe used

putting all spot cash conveniently on front disc & then 6 or 7 instruments get the solo instrument on one side Don't get them too weak

Have Werner Rig up to Record the sounds of Mrs Faalz & Ingrung H. Lopes until I am satisfied put it on Music sheet so I can follow the sheet

Listen to what happens here of Triplets & new Records & Experts.

Violin strings ground Round & smooth by Lapping also buff element — Buff bow element

Quality is then decided upon Receiving Equipment Level of which Level of Patents & Equipment

Why not polish on Big grooved Condensor Record. the Varnish of which has Diamond dust fended in, while heated + soft. + (10) Varnished, baked, heated, after this very thin Coat Var with diamond dust again heated (10) baked then pointed, point after shaping run across with a return mechanism — Deep grooves. — Also plain surface Condensers processed. the dust being least thin Coat.

Follow up Hardy + get every Pat or Applicn that Thomson took Wooy infringes — Crown Stating Diamond setting — Everything —

Make Manganous hydrox like we do Ni 1/2 wash dried bake heat then moisten + grind well graphite flake, get some flake Mag. Zn & Al Ammonia — Dry bat

Try Zn sheet + Nickel, blotting paper 15% Mnso4 Cu powdered & coated + assembled like Tom Starter for Dry cell —

Try after baking CuO plate Copper then wrap it & then amalgamate the Cu surface with Mercury to connect superficial Cu + pure Voltage,

Hanley Must have lugs to support the elements in cell —

See about making the tests of 2 cells each 3 ohm Lalande for high rate discharge +

Dont forget Cast Zincs 1/2 dia 4" inch Long with Cu wire in for tests of Mr Olsen additions for dissolving Zinc

[77]

Delivery to balance of Wages Records — also to the + marked Comel records in 100 Cat vulcanized

Record here that Boston manu time, " When I'm gone you'll soon forget me "

Write Butler + ask what salary a Rear Admiral gets for instance Admiral Byrd, Industrial Manager of Brooklyn Navy yard & What salary will he receive when he is placed on retired list also if an industrial Manager gets Extra as the an Admiral —

Fix up a Room for Lorey with Piano Room out porch in the 2 Cubby holes in Music Room — Loafing —

Medeff think Dyer for his article in Lading Tribune —

May 19/19

The last time I passed there in 1914 54 by James Archibald 4 knots + 6595 + 6904 by Shillaber & Clark that are worst of 3 carry account of both engines & instrumental

file Alpha Zinc dust in paint Vasolen Elc

Medeff with the idea for Mechanical engineer.

wound around the 6 Cyl Vertical Cylinder inclosed in 10 Et with 5% Sal Zinc 4 weeks, make 2/01 time lost

Have drawing made for Cast iron ornamental Ring + Collar for the new black and test them in any event ring should work This is to mount smaller sizes get edges + test with big pieces —

Scheme, Use 1 Velvet straight one playing 3rd + one 6 claws higher probably 3rd or other or other [illegible] to give color

[illegible] 4 Tiaras in for [illegible]

In putting in hole in holder diamond part which is to be ground should be set in the center by a point [illegible] after healing it is displaced. The the holder

must be ground true after Experiment Diamond working [illegible] If scientific the whole diamond will be ground away

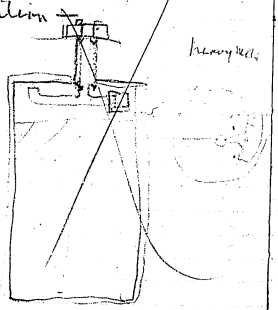
Van Moppes. 532 Carat Crushing bort. 70 B [illegible] 30 000 Carats

get some [illegible] Sulfur
Suppose the Sheet Rubber Mix to [illegible]
also in [illegible] Blo
worth + northern Sulfur
[illegible]

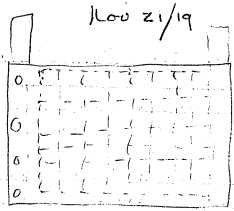
Up to Nov 21 — Duke + I
bought 4355 Carats
+ Cable 5000
Total 9355
@ 30 000
39355

Rubber or Pontinac or Cheap Balata or Denced Rubber Room - Stain Amberol with no without a Solvent Then dip in Celluloid (Camphor in it) Dope, Then give 250 to 1 lb of Dope & Coat Camphor on in small item ... it works ok

Run No Cu tube Metal Cells with CuO in Solution



Nov 21/19



2 perforated Ni plated sheet perforated or holes plated in floated active material & covered by screening screen with 0.01 wire (Ni) with perforated paper between P & N for Ford Starter

Free Sulphur is extracted from Hard Rubber by Acetone, gas brown fresh pin Separators & Extract with Acetone

get 10 lbs Dry Pontianac 25c

Dip piece of the Clay Rubber Sheet in Celluloid dope same as Disc dope dry & press new Ni Record piece see if it sulphurizes it OK

Also Mix clay Pontianac with Asphalt & try get stiffer for dipping dope & see if,

Also try Clay & oxidized rubber Linoleum.

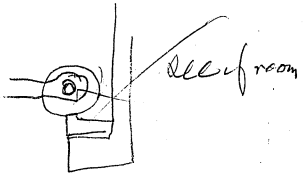
Ambroral, Wax containing a Glycerate of Pb Cu Ag so much that it can be got to metal by reducing heat to get rid of Graphite for plating, then Reduce & then plate

possibly can make a very finely divided Selenide Copper, dry & Coat wax ground same way as graphite, then plate.

possibly a Telluride say of Ag or Cu, Pb & Coat

Celluloid Cylinder paint thick Coat of Graphite or fine metals in Celluloid over surface, dry, print & plate,

OK



Andrard

× plate No 0015
4 band

Use a mandrel to bend into & loosen all round so can pull out

Then transfer to a plating mandrel & back up — Can make many from Original Cu Matrix with 8/4 —

Try precipitated Tellurium in silver graffito

Mallory ~~Yellow~~ ~~Chrom~~ photos ~~for work in prospectus~~

Hanley small ~~collection~~ Asbestos —

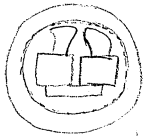
ditto Use 15/- McOtton time ~~tool~~ & di

See if Andrades been ordered for Ford Calliper wheels in Junk Ale —

Hanley brass (copper 20% warm water & rad at till organic matter out, ditto cloth

Koppers Varnish, Carbrone Remover on Koppers 1 3/4 lbs one quart Solvent.

Andrard



Magnetic slide pins

for Mr 1/4 8/4 d Copper matrix — to pull out

Try Gelatin for blank coated Dope for structural.

Sent for Cheap grade Balata

Tried trying mixing Posthumac in Little Mixer with & without Sol Nap also added extra Rosin –

Also use Cotton Flock see how it works in Mixer & Nelly

Ask O'Dair average room temp in test dept.

Edison Make rough sample on absorption of Water by drying CuO 150 mesh.

also Make a batch with 6 cc Nat Hydrate 6 cc " CuO Accumulyzer & dried

See if discs of CuO are not spoiling or cracked by removing from Mould

Tell See if night watchman will have a man on nights – up to Tell Hanley –

7. Oct. Try mixing Lamp Black with Clay & Portlandite,

also mix with Mercury to prevent Positive Record Event lap rolled.

Wisdom Portland very thick in Solvent Naphtha benzol, & pour sheets Chemical dept.

Also treat sediment get some Resin out – & Water out –

Cabinet mks

Pullman	200 day	$255	250	300	
Wes C Co	220.	95	155	195	255
Simon M Albany	120 day			195	
Jackson Health	150 day			155	255
Carol Formaldehyde	Jackson	140		# 195	
Marion Cabinet Co	"	120		# 195	
Monier	"	50			
Simons Mfg		45		255 per al	
Emery		125		155	

Nov 23/14

Preliminary tests 2 Cu plates 5 no am
Cells at following density of current
9 hour run

5 amp Dusch	.600	.600
7 "	552	565
10 "	507	517

20 cells each

The flexible tow coat sheet Pontiac with Clay has 65% Clay
key browning in Cocoanuts, Campor
mixed not ok [illegible] now returning

Have 2¼ dia Record Cu
plated with Gold 20 carat
present Sulphur effecting
surface with Rubber S.

Magnesium dissolves Alkali
filler Clay, precipitate by acetic acid
cook

This makes a mash put on cloth & squeeze out water, poly wash again, dry, press in shape bind ~~[illegible]~~ Cellulose Varn & print record —

Electrode moving up & down connected to a diaphragm faced Vellofoss because of polarization
Think Zinc Anode & Cathode Cathode being separated by dia in strong sol of sulfate/zinc or KCl, might probably work as .001 movement would enormously reduce Res when distance apart was .0015 or .002 should ground all but ends by varnish then distance would keep the same

Have filed pat on Gas alone in Microfoss Cups —

Gave Hardy Zinc Vessels renewed patent, the appeal — 26 Nov 1919

O'Day — plate some tube stock twice as thick as Std —
See if Radiation of tube in little cell is worth plated —

Speak to Walter Miller about Diaphragm of Shellac & paper pressed in hydraulic like Marine deposit — use for recording — probably no strains or anything to do anything —

Be sure get record of tests when O'Hair gets double Mr Knowles of Ni on Reg Tubes—

Perhaps loss of Capacity on standing is due to galvanic action of free iron on tube & other parts of grid — possibly Cut end of tubes at clamp

And at iron end it may be the Ni acts as P to the charged iron

Possibly Cu from solder separated & Lake gets it on Sol & acts as P for the iron & oxidizes —

Does whole sub-pack should be treated with small cells

Ask Maxwell to get me average Repeaters returns per month & the number of things for which returns for — Tabulated data for several months —

Follow up Lou & get the 3 Cans 5 gal Tank filled with Kopper Vacuole — Have boy bring it

Have boy bring Mr Mahr. Selenic acid & now to make 10 lbs = 4 put in sealed bottles 3 oz bottles for 2 lbs balance big bottles

Tell Ott boy Portland with Kuselghur Blue fix. ~~Ox Fix~~ Magnesium ~~Ox~~ Infrox we have some —

Make some Oxide lead
& other oxides which are
tough,

Grind out, Work clay &
Break Compounds of glass
in sheet,

Make a large 25 Sizes CuO
Sp. plate holder holding plates
then Indexing up & removing
plates. all metal so can
be used Sloppy water
steel working in free Exports
plates —

Dally — test a lot of our
new superals & see if they run
out (in Eccentric

press some of Ni mud
between or in flat Cloth
bag in hydraulic press — after acid

Watch Moore on Regeneration
& see if he gets good Nickel good
Color (in) pen green

Moore try explosives & ammonia
instead NaOH also try
KOH, LiOH,

Investigate Dalley & Lutemann
that out Alcoa of his Dry
Saves time & sand
pipe & small etc —

Tell Waller Miller
without he gets Recording
arm. clear Concentrate
he will have Idea in
turn with many cautions

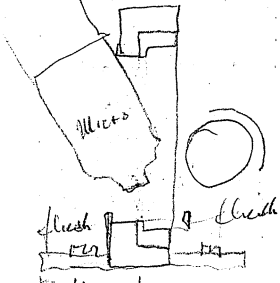
Patent Jony Starber in England France Germany, Sweden Canada

Say to Mr Ambert that it is absolutely essential I have McCher Desc Archual Drawing Dept Battery Costs Regularly

See Old Worst Contracts (last 2) & see if free after notice of Abrogation

What is being done with Moore Machine to remove plates & repair Machine

Take up Drawing discrepancy with Marchand & the Man in Charge



Quilting diamonds in Leap ichad

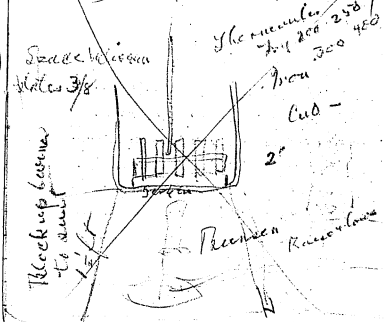
Acc Experimentation seems of
Conical dia formers will permit
Changing Wells to Oscillating
tyet 1/2 interchangeable

Go down to McCleary
see them process plates,
get Time of Each operation
in cycle —
Check up 1/2 size cans can
be exceeded, one next one
other goes in —

Q: Dan do you settle
your KOH, How do
you draw it off —

Acc of things on Inter
Islands Cycles —
also good —

Hzyl — Mathematics problems 25° deg



Dan — from yesterday all our
Test cells had 21% KOH &
2 grams of LiOH in Each cell

A4 had 90 grams, has this
been changed

Small cells Now should have 15% KOH
2 grams LiOH — 6%

A4 .75 of gram to a litre
+ Small Metal Cobb. 2 grams
to litre –

Test of Electrolyte received from O'Donnell
24th – forwarded 29 – by Daughtery
Sample was marked from Drums
Standing in Drums 24 hour

Specg from Temp	1.1697 %
~~Total~~ Ya as NaOH.	16.39 %
Na_2CO_3	0.37
Litho NaOH as NaOH.	16.11
act LiOH.	0.903
act NaOH	15.212
KOH	none
Fe_2O_3	0.006
Al_2O_3	0.00085
CuO	0.0013
Grams LiOH per Litre	10.56

Recd to
O'Donnell

After dropping Acid second followed in Melrose Collection dropping absorb the acetone in Carbolic acid from the Pump in Vacuum Bottle – Resin also may be used.
Water 1.315 %o Bragent,

find about a pellet or cage for testing etching in glass dropping
Ask O'Donnell – 10% hour one

Ace how much water
7 hour 120° bake test
dose absorbs as compared
to old Records
also Req SL flat by
weight %

Try in Reg. 8% $CuSO_4$ dehy
to see Mach, about 10% of Extra Anhy $NaSO_4$
& Iron bench out after
baking for Voltage
use 20 mins.

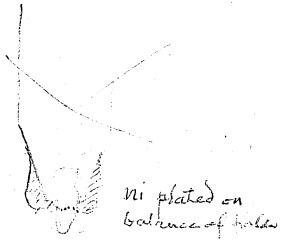
Make Reg wash ~~180 mesh~~
CuO ground to impalpable
fine in ball mill added to all

Try grinding ~~150 mesh~~
CuO & the 8% $CuSO_4$
in steel ball mill dry

Tell should clean
Instanodes ~~of Copper~~

Tues Dec 3rd 11

Watchman on our coal.



stopped off up terminals

or Made Slot & forced on
Even Thread Cutter forced on

put in Mechanical Engr
Americanus

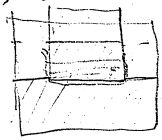
Gross power shut
open -

With Cu Out by Bas
immerse a strip of
freshly plated Copper
in to acid of my Sulphuric
in liquid —

~~Send some products Arrow~~

—— diamond point just
stick in hole a little graphitized
all over & slip off all except
spherical end -

Use Cloth also parchment
paper & Gamoc out the
Mercury from the Ni Fe
Mud, —



Go Mellin. Write that
Lawyer in Toronto
for the Ion out Mfg
Ni in Canada

Tell LD Miller Echos are in the Master, Respondent Records by new process Shows up

Released Replica Rise

		Remainder
Sept 17	2400	400
Oct	2000	600
Nov	2200	400
	6600	

Gordon Jewels	1806	546
Flat or Worn	4785	854
Error Slides	9	0
	6600	

4785
854
5639

X a slide somewhere on arm or below so on Blearing Replica removing it back it raises up another part of. play it back forward & slide down on record at proper place.

Make some Ferric hydroxide by Dialysis for Nickeling

Try 6 grms Ferric Acetate to test Nickel.

See if all Worth plated the photo Gold on Silver surface

Get Ingrid decide on Jungadin Record,

Find out what 26 1% HaCl used for —

Bring up to 175° Fahr
200 cc NaOH. 20% with 10
grms Reg iron mix — dilute 25%
dilute 15% dilute 12%
See how much iron dissolves
in def solutions —

Force Drummond fuse into
Celluloid warm for Lap

Remove Drummond wires as
patching Drummond gets in
holder & finally Walters
off into [illegible] — new
pieces with clip it

Set up 2 cells of
CuO dises that would
40 — & Run them
test strength after
discharge

Members of — Diamonds,

Dip polished steel Iron
Copper in Sh & put and down
for reading Experiment also
Washing steel tight
but not excessively polished
dip S/H & test — also in
basin with water glass

After getting thru with
Depositing Ni Experiments
run a Camp night at high
rate on Copper & clk say
4 grms of Sulfates Ele Ele
& find but impurities that
are bad

Put mass on Cleaner Edgehne second
Bring fine brass-find the material to hardness

V.M. instead of plain water
Let in pot allow reduction cooling 7/8
in pot use 2½% of NaOH, & dry with time

Photographer = Brent from Neg
having no reflected light by trays
angle 30° ½ exposure ½ exposure
other hand 30° deg = Cos wrong

Moors, Treat some of the
Longhlenny iron with glucose
+ NaOH to reduce it to
black iron oxide for test — [illegible]

Also treat Ferrochromes
with glucose + NaOH, possibly
[illegible] after [illegible]
Temp. 2nd [illegible]

Try Chromium Sulphide iron
and powder with NaOH, +
then 2nd with glucose + NaOH,

Also a precipitated Manganese
ppt by big excess NaOH, boil then
Reduce by glucose NaOH

Set up cell with pure Ni
Anode + Cathode 6X8 Cell
001 thick + plate out
iron Cl_2O_3 etc from
30% Sol NaOH also higher
perhaps saturated room
temp. also 10% Sol.
analyze the Cathode
deposits after all out —
in test Sol — all Warm 130°

Also set up one now —
iron plate 30 pkts in
30% at 130 against 001
Cathode of Nickel, also Reverse
+ [illegible] —
Use both sets for long tube
test cells

Run 2 long tube cells hot
with Cuhydrox in —

Tomorrow, Try CO_2 process
Set up 2 cell cutting reduction
in H —

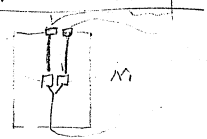
Send for some reg iron mix
moulten load in 2½ close, mould
+ press same pressure + remove
break up to 15 Ele mesh +
Expand till it works — clean
Moulten NaOH 5% to Ele
Mounts —

Make 14 Cu Cu Fe Ni
Bake 1200° for all
tests.

Mechanical — Leg that Cement
works at my house or some
place in Dunmore we have
the parts of Myers made at
Edison — Print up W.J. Patches

Dec 6 1919

Make 2 points diamond just
forced into Hole fairly light — then
so it can have angles on — or
use lapidary cement — Then 9 well
plate, Lapdum + polly mg —
force in just under crushing



proper Vac — Cu one then Ni
one — flash Cu + Ni on wall
think low Vac do it —
for flake. start one with
hot spark jump) for flake

O'Hair put up 2 long tubes
Cells but do not connect any
Current Then run the heat
at end Week Connect up —
Run Regular —

(115)

into Na_2SO_4 some perfect slabs 20 or 30 slips placed & taken out,
Try Cu to free Na_2SO_4 & see if they dont come ok quicker if not
Try precipitating for other metals etc & following which is connected
1st time look out for Aluminum, Mn should spot the trouble this way

---

Recommended $NaOH$ from old 10 cells
A6 mix 140 Amp hours

Echem #2	Runs	1	2
	1	967	953
3rd Run on 10 that runs	2	1197	[illegible]
	3	1223	1223
			1153
	14	1177	
	10	1163	1117

Try feeding nearly dehydrated $FeSO_4$ into Molten $NaOH$ see if 720 obtained or what

---

Get Na_2SO_4 Sol from Creek into CuO - peroxide hydrogen or Ba_2O_2 & see if Mr Graves design basic recipe & gives OK slip on (Made that time) If so all we need do is to use BaS for Cu & Ba_2O_2 & acetate Ni or acetic alone to keep out Iron & Cu —

Get some Rey (frozen & thawed) treated with NaOH a chemical like recommended NaOH & make 2 short tickers —

Get Schuberts Ave Maria 1 days in sequence to poor accompaniment. Avoid our Popular Music —

Figure on Relief
Shankal set on group of
Notes predominance a divinal
impression — The Shorter
Complete idea in Music

1 Cell Cu free sugar check
H_2O_2
1 Cell Hypochlorite soda
1 Cell Mercuric SO_4
1 Cell Peroxide Ni
1 Cell. Permanganic acid or a persulfate
Albito get rid of H.

Try 5 cc 8/4 strong
20 cc " " mecol —

Try Exquisite Medium sleep travelling
[illegible] — the [illegible]
diamond Elephant Rhinoceros —
also Porcelain people also
Cast glass men — Slate,
Steatite Soapstone —
Alabaster —

O'Dwar about Kel wiring
005 Block for iron packet

Also hang more open holes
or slits if too much
Comes out, put something
on change with Constant
Village + low rate Tile
filled Magellus

See if Trichromophenol
[illegible]
[illegible]
Little [illegible]
[illegible] Porcelain

Take a Cell trial exp
Commenced, heat at 8 pm 180
Resistance 1 H 300 ma 1 pole

Cell at by bleaching and
Chrom — [illegible]

put 10 Mg Ferrous Sulphate
in — [illegible] add
1 [illegible] [illegible] again

Edison No 3 NiOH [illegible]
with 10% NaOH + glycerine Mix
now from the 10 Cells A 6
[illegible] only gave 135 amp
hours

Hours	A	B	Gave on hot
1	763	873	
2	1193	1093	
3	1117	1140	
10 Hot			
15	1087	1053	
17	1157	1133	

Moore

Experiment on getting a reducing agent which will reduce Fe_2O_3 like Ferrous Compounds Fe_2O_3 from Carbonate but not [illegible] Metal or $Ni(OH)_2$

Try Grape or Milk sugar & other sugars

Also try a Charge in KOH, dilute KOH, Cuprous hydrox also in presence of Sodium Tartrate Na KOH & KOH,

Idea of Tartrate is to reduce Iron Salt in Alkali.

[illegible] Violin

Acute Cello giving longer [illegible] strings but strengthen Cello so it will stand the accent

Tension of longer [illegible]

stronger to obtain the req pitches of Violin =

Ford clutch wax

Bar epoxy, silvered – outside Nickeled buffed
Pan walls ~~[illegible]~~
4 Thermo, 4 Reg Check bath
plan [illegible]

Put up 6 cells to run steady
night & day at 200 ma on whole
piece of black or smooth part
of Collodi except 1/16 at edge
when 1/32 black strip
insert them for anodes
also Pad cells 5×8 [illegible]
Then test efficiency in
CP Ni [illegible]
& also with, Ni SO4 in
baths

Walter Miller

We should make all cones

Mendenhall said that big house
Music house has branch in N.Y.
Better [illegible]

Make 2 dips of chemical
CuSO4 in press
temp to 1300 –
press Cu [illegible] in press
& mints 1300 –

Ask Walsh -

1 = Allis lights turned off have singer gradually weaken voice to inaudibility in a period of 10 sec & then disappears entirely

2 = As a novelty singer sing in another key say 2nd below of pitch is high -

3rd Instrumentalist to play with Record so the 2 sounds will resemble double clapping as a novelty

4 = Following Record Houghton for instance -

5 = While never go above 60 Revolutions, show the public The effect of 75 70 & & 65 & then put Reps. back & start over at 60 50 40 -
Left Reps by pulling down on weight which increasing for each change of speed to get steady. Say that

when speed is higher than when recorded the effect is bad but to most people representing at at a slower speed is very pleasing.

6 = Record a Record Helen Clark & Phillips, a duet say Ernie Wise & Clark only so recorded then this record played Phillips can accompany Clark & then clap, a stunt

7 We have a record in which Clark Phillips & Homer is played as each [illegible] instrument but ~~of course~~ leader wants prompt, a stunt

Mention show Slides/Make.
6 Regular sing up plates
drop in Lake & bring up to
Bake & set 2 big Celeron
for key tones. we have OK
one Lamp — one 1 amp
the other 3 amp rate

C035

When get double Crystals H_2SO_4
at tests OK put up 1 with
½ cc H_2SO_4 1 cc 2 cc
4 cc 6 & 10 cc acid –
Cut Exactly 3/4 wide 1 3/4 long
from the slices off each to
weigh & make all the preparations

Ditto 2 4 6 & 10 & 12
Acetate Ni –

Meadowcroft Sec of Pittsburgh
Glass Co. Mr Schaeffer Co. please
in NY or Newark of Cheq
Hacos! 3/8 glass locally also
we can get them Cut there
We get 1st one from Meer
place in Newark –

Chemical Make Co. Co
Selected Wax seconds
Wax with make Coated
Filling [illegible] of Mother

We should see if we can put
a reducing agent in our wax
that is put in Au or Ag
will reduce – say Formate
Silver in shade or light –
or strong sunlight or arc

Should get a Neg person
female & run along with heavy
weight on repetition to
polish from the Crystals
surface given in Metal Cu
Try 3/4 it Neg may be
[illegible] or place turn on it
this may polish from fine
& by 3/4 we prepare Ni

Metal Kelly's new cold
mixing process –

To prevent Cracking of Pan
or new record shaped use
Mercury [illegible] to turn out
Church & light pressures in every
blank to get perfectly

Listen to some of the 100 Favorites

Walter Miller + Harper's dedicated
Evermake the Peerless of all
instruments on disc
Would like them to make
Metal Master - Meaning that
them ~~to~~ best only in way
on Reproducer -

G. Bailey's revolving loading
Model Metalphone Work -

Try one of the hydraulics
pedaled the big H as an
Invalid, in double Cupola Rubber

See Hicks about new selling
plan

Bamberg - Rubber Sponge
Tone modifier on Tone Plaster

Send over for list old
tube goods lines on &
Yr. price to advise on
removal of labor machine
& Yr. price -

Edison #4 - This lot segregated by
using 20% NaOH + boiling with glycerine
[illegible]

Run	1	830	783
	2	1060	1020
	3	1170	1123
	14	1040	1003
		1037	1010

Use the Ulica Mean harp +
Feet Violin on it -

In make for Merchant Mention
that Present Mills Property
Lease by [illegible] Hay
New Mills Corp [illegible]

When get Double Cryst
$MnSO_4$ + H_2SO_4 to zinc Cry H_2SO_4
to hydrate —

Consider saw or hose cut Cam
open + bent way —

Tool to force pockets out

Plan for breaking cents
or replating — bridging
Connections — + grids

Try Regenerated returned
Cu plates + treat so can
be used again this process

$CuSO_4$ + $Cu(OH)_2$
equal to CuO make
plates — to see higher
Yellow — equal tube
temp be possible

Also mixed Carb Mg + Cu to
ignite in porcelain + dissolve
out MgO — to get higher
porosity —

Get Cost of tube grids
Completely drill + without
Labor pulling in Lists
drill 7/2.

Carbic Makers get in
Sulphur to throw down 2/2
Try long tube closed a
have some Sulphur Crystals
in bottom see if black
sediment throws down

also another tube with
$Mn(OH)_2$ + Crystals Sulphur
+ see if black —

See Spoil & if ok place orders with Brooklyn [2 gross] for breaking

Number 1 – What [illegible] Instrument Kept, & accessories & [illegible] etc

Give details for Gentlemen to reduction to Ladies [illegible]

Q's Makes about and of BaS. for Dressing Bottle

Dalley – try Sunflower & Resin & Chalk. Make a Wash Powder Compounds also at [illegible] day & [illegible] & [illegible] also Yuyule [illegible] –

Mr [illegible], See how long you can use the 20% NaOH, amount & frequency of Mix by weight also when get bad Soap & [illegible] of Rich oil Glycerine acid [illegible]

In refilling up 6 cells Double Crystal No 304 with Varnish also used Marked Collodion nearly been area Strip & weight. Each time when dip % H_2SO_4 in

With Double Crystal CP No 304 use platinum electrode & Carbon & plate out X by 1 Volt

Ditto in Not reading (Calcy) but with Cu & Zn out all –

Dalley – As Cold Mix balls on heating 1st increase Resin, till it dont boil. Also try Koppy's resin method Resin –

Also put balled up [illegible] then hot mix with Brick Mill & add some Clay & use of corn grind –
Try checking at Three Hrs & 4 Hrs Kelly –

Go & see how mix to get out of tubes now, also Rockets –

See if rubber seperator ~~[illegible]~~ broken Can be welded

See the Nickel ore, then try a dry under magnet, then non mag. Heat slightly Test Magnetic & seperate then a grade to Oxy by Nitric & perceptible test Mi Cu 1/2

In Ford Machets use double Cup-Hooy —

Get that handling book for big Cu O square pieces & device a good Conical rack

Follow up Silvering the Diamond Splint & holder

Circular about man for JOHN Place, also distribution of or Monat

Listen to the 10¢ Records or such as we have.

Walter Miller — Get Gramophone Catalogues from England.

Man to go around USA to take video bright —

Why dont judges get all the singers that I see give recitals at Carnegie & Aeolian Hall Etc

Mr Everett Get Billings & Hunter Catalogue Find out they have office in NY — if not ask Wagner to get them —

Dally Let me see your Loader into Magnetic work

set up Spectroscope, get supply tubes & asbestos discs — for Dougherty

Lotts — red some of the latest
Redoxed from 5 h + permanate
with strong syrup + low strength
+ see if Cuboxide not Mn Oxide —
also try the mixture of Fe2O3
+ MnO2 — + permanate

Attempt a Crate for big
CuO plates to fit Kiln

How would a Half mm
Kiln Furnace answer
for baking —

Make up fresh
Cleaning Sol for
Test Cathodes

Rinse Wash

Grill to save Mud from
Nickel anodes

Find out if simple hand
mag 3/4 diam 3" long
of reliable breaks with
Control Key

see if can grind the
from above Schulam OK
with something equivalent

Mr C.W. Moore thinks our Cake
bodies are do 110 per
hour, this would be 20
hours over 50 bots —
10 Machines 500 bots —

Try reducing Fe_2O_3 ~~[illegible]~~ with Zinc dust (acidified)

~~[illegible]~~ Chlorophyll — ~~[illegible]~~ with Tetrachlorap ~~[illegible]~~ using ~~[illegible]~~

~~Put an old Anode in the 12 cc of H_2SO_4 Cell —~~

~~[illegible] 6 cc H_2SO_4 put, [illegible] neutral. Old Rusty Steel Anode in~~

~~Marchant asked removal of Cement Wales, nearly due,~~

~~Check Marchant [illegible] machine too much out [illegible] up over [illegible] adjusted [illegible] Motor.~~

~~Cole Wires [illegible] the new arm + Records from W. Miller [illegible]~~

~~Look B good Lead Cud discon in Washer [illegible] Nasty put dry. [illegible] Copper Wedgeter 2 [illegible] test, used [illegible] acid [illegible] wet before acid [illegible]~~

~~In long Cement Repairs put an outside [illegible] Chamber to Control C [illegible] so Longer [illegible] used in [illegible] Order — If [illegible] will be [illegible] but outside Chamber [illegible] wick [illegible] Wet [illegible]~~

On the 12 cc H_2SO_4 Cell Electrolyzing anode plates were platinum on anode + Zinc — in neg put in a new neutral sol fresh 2 qts & use Electrolyzer see if opt [illegible] Chemicals

Copper, the 2 liquid Cell degas — work H_2SO_4 + Zn both alike —
2 Nitric [illegible] soaker water before [illegible] performing

Solution out test Turn from blue Fuchsin color test + no Copper

Double up tale on 12 cc H_2SO_4 Cell — see if Electrolyzer

Remove Slate from Moores funnel green liq neg

With [illegible] plus discs

also place 200 discs with Brooklyn mixture

Neutralize new sol 12 cc H_2SO_4 test dead neutral using 2 Crystal then plate

Announced at Storage Gallery 2 Electrolyzer anodes use 2 Crystal

ditto bring up to rod. 2 Electrolyzer anodes in air pockets + use 2 Crystal Cell

Use 3 Electrolyzer 1 Cell 2 Crystals.

Use Reduced H_2SO_4 & [illegible]

It is strange Electrolyzing anodes neg ditto run low Hydrogen — neg — but pushing to Red in air OK Nitrate form a very stable Compound with Hydrogen

Give Hanley ~~[illegible]~~ Jenny 200.

[illegible] longer takes a
[illegible] the best for other
voices is a or c, but
a best.

CuSO4-precip with fine NaOH.
just a little extra NaOH,
Dry 220 or thereabouts, then
pendolate out then add
some liquid Calcy + NaOH,
Mix press + bake—

Ground up some [illegible]
or then 40 60 80 + separate

Separate some more fines
than 100 for test,
test finest—

Play Mascagni, Leoncavalli Bizet
Balfe, Saint Saens, Flotow,
Donizetti, [illegible] Strauss
Puccini, Puccini Cinquettier,
[illegible] (Humperdink)
Wallace, + all [illegible]

Soak a [illegible] CuO
dose so [illegible] of the well is
left [illegible]

[illegible]

Make [illegible] Make like dose
[illegible] using
CuSO4 [illegible] + NaOH.

Make scoral with holes in
3 full thick 6 1/2 Thick

C1-3

Mason to. Tumble some black + also grow to wear off the wear made on outside of particular coal for figs after screening

Also separate all with signs + test for wear —

Also complete test Checked by wear screen —

Warner go ahead with Real dimensions + make 20 holders + both plate for them wear screen

Cut from Milner 5.16
for Florida 3.16 bars
of Carolina

Call, badgerson test wood fibre — its books you will look out for

Dally Vermish 2 Coals
2 glass not screened +
Iraq Coals — 2.6

$\frac{452}{12}$

C155]

O working ✓

1 = Improved Lelande — O
2 Dry Lelande O —
3 Food Starter O —
4 Audion Battery
5 New Lens O —
6 Wax App —
7 Sheet Film & articles O
8 Nickel from Sulphur ores O
9 Lamp for Electric Recording O.
10 Moulded Cabinets, formaline
11 Flock & Velvet O
12 Increase Capacity Ag
13 Chalkphone Amplifier — Chalkphone.
14 Lithia from ore O
15 20 parts for Carpet & Auto Machinery O
16 Chalmache Shunt rupture Loading O
17 CP KOH free Chlorine — O
18 Recording Telephone [illegible] O
19 Charts for Surface Scale O
20 Repeater to play all Record except Edison
21 Enamel Cabinets.
22 Non Graphophone Gold Lined or Sub. Stylus O
23 Varnishing Mach Disc Record O
24 Removing Manganese from Fe SO4 — O
25 Cheapest Telephone Receiver Paraffin Paper Resin
26 — Best Impregnation for Chemicals & Chem

Dec 20 000 Cabinets
Dyeing of [illegible] 000 000

10 000 1 Mat Leon —

1200 —
206
8
700 | 2401 | 343
21 000 | 270
3 0 6 0 | 401
3 4 3 3 | 656
3 5 | 92
2

36
20
720

6
4

24
2
48
2

14
14
5-6 240)960(

14
19 6 240)960(4

2.2

5 to 6 bath 1 & [illegible]
2 hour
12 per day
24 daily

6 X 20"
5 Dollars

120
24

2
2

180 000

20

2 000 000

280 000